



**NTSB** National Transportation Safety Board

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# SMS, Trust, and Just Culture:

Three essential, inter-related components of an effective safety program.

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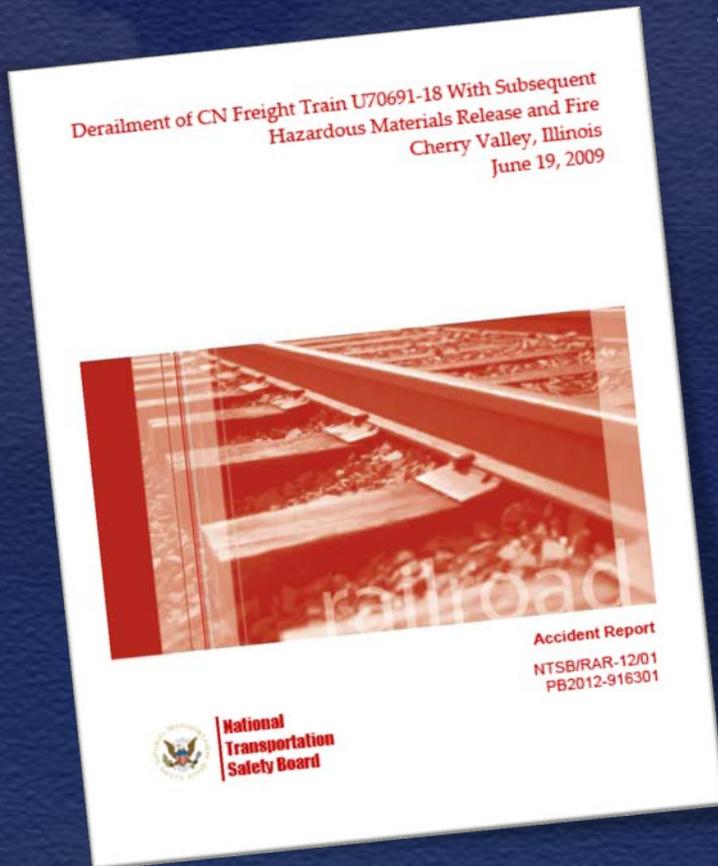
Presentation to TRB Task Force on Transit Safety and Security  
January 11, 2016

# CN derailment

- HazMat release
- Fire
- 1 Fatality
- Cherry Valley, IL
- June 2009



# NTSB Finding



- “Had an effective safety management system been implemented at the CN, the inadequacies and risks that led to the accident would have been identified and corrected and, as a result, the accident may have been prevented.”

# Forget SMS!!!!

- Safety Management Systems
    - “Something you have”
  
  - Safety Management
    - “Something you do”
- From Don Arendt, Ph.D., FAA

# Instead, think of SMS as ...

A business approach to managing safety.

# When you have SMS, the company ...

- Manages and values safety, just as they manage and value other vital business functions.
  - **Finance:** CFO; General Accepted Accounting Principles (GAAP); financial procedures, controls, audits, accountability

# The Four SMS Components

## Safety Policy

Establishes senior management's commitment to continually improve safety; defines the methods, processes, and organizational structure needed to meet safety goals

## Safety Assurance

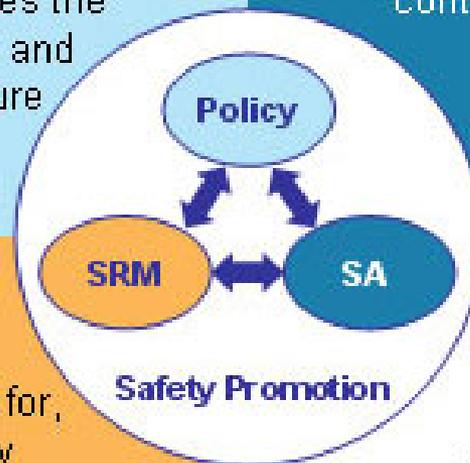
Evaluates the continued effectiveness of implemented risk control strategies; supports the identification of new hazards

## Safety Risk Management

Determines the need for, and adequacy of, new or revised risk controls based on the assessment of acceptable risk

## Safety Promotion

Includes training, communication, and other actions to create a positive safety culture within all levels of the workforce



# SMS Components

1. Written policies, procedures and guidelines
2. Data collection and analysis
3. Risk management
4. Safety culture

# SMS Components

1. **Written policies, procedures, guidelines**

# Potential gaps

- The organization does not have adequate written policies, procedures, or guidelines.

- or -

- They don't rigorously adhere to what they do have.

# Washington DC Subway (WMATA)



# Probable Cause

- Failure of the track circuit modules
- WMATA's failure to ensure that an enhanced track circuit verification test was institutionalized and used system-wide after a 2005 precursor event (near-collisions)



# SMS Components

## 2. Data collection and analysis

The lifeblood of SMS is data.

**How do you get data?**

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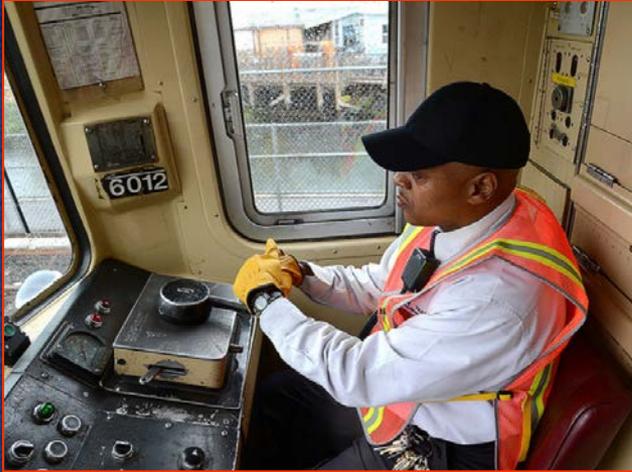


# Getting Data

- “The NTSB concludes that the safety of rail transit operations would be improved by periodic transit agency review of recorded operational data and non-punitive safety reports, which have been demonstrated to be effective tools for identifying safety problems in other modes of transportation.”

-- From NTSB report of WMATA Fort Totten accident

# Employees



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How do you enable employee reporting?

**Trust**

How do you develop trust?

**Just culture**

**Non-punitive reporting**

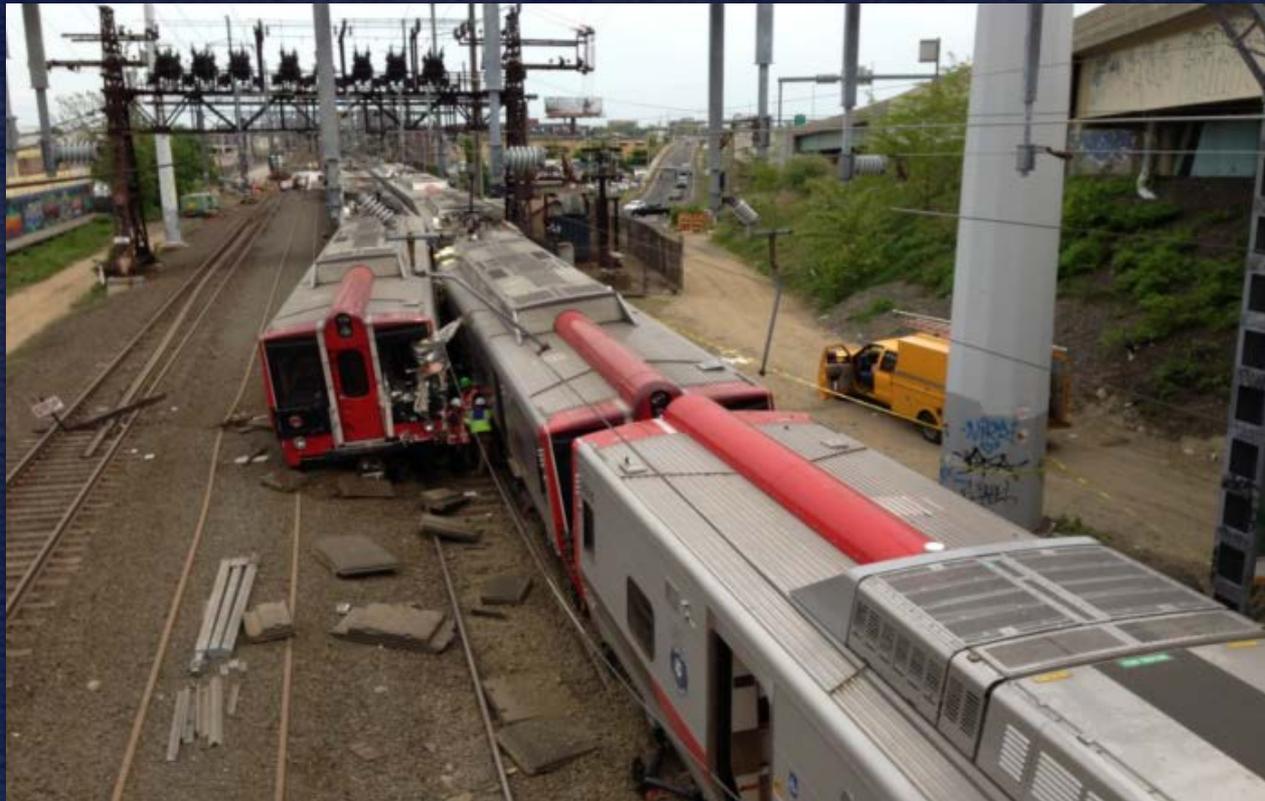
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Without data, you don't know  
what you don't know.



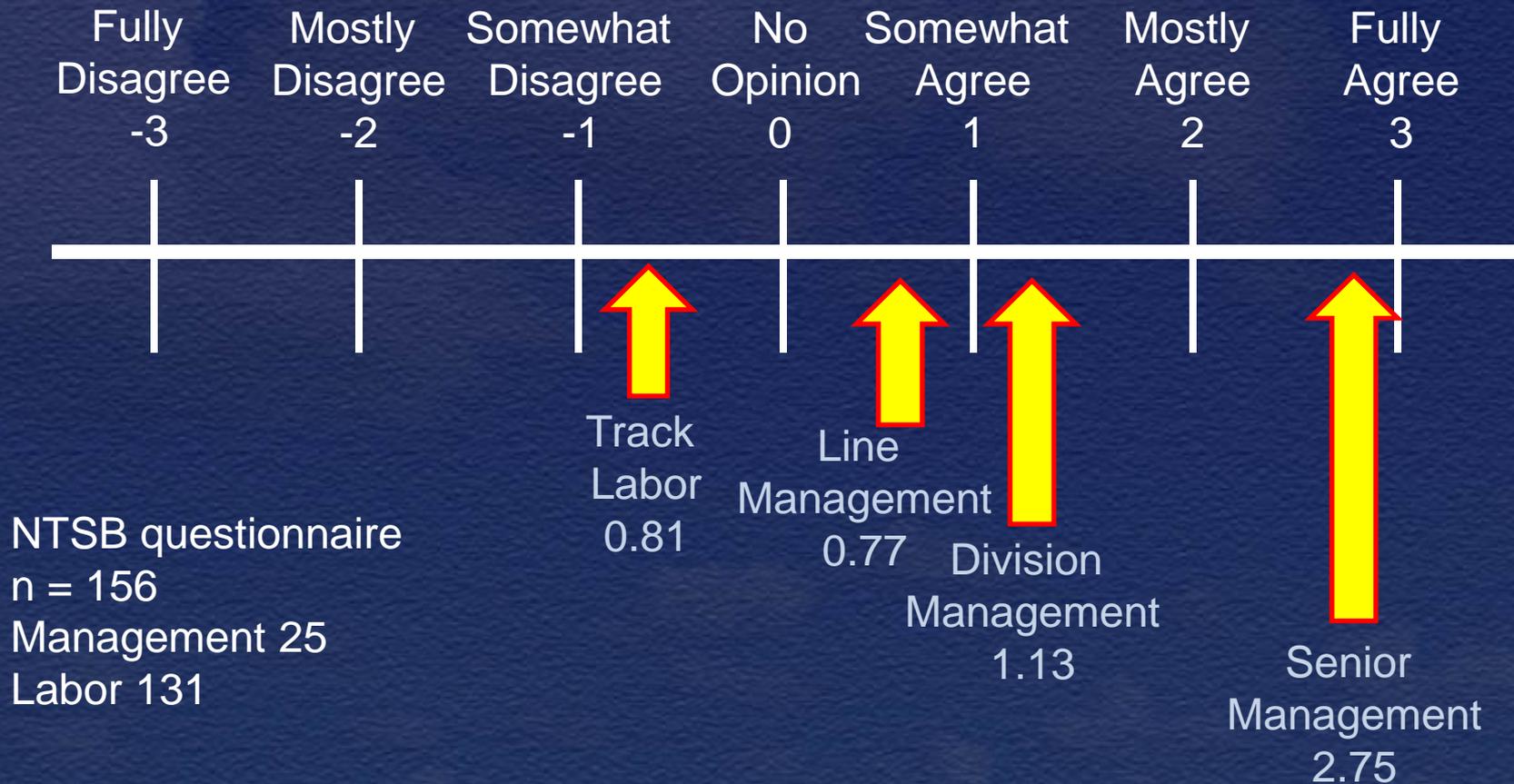
# Metro-North Railroad



## 5.1 Findings

- 1 Metro-North Railroad did not effectively use its System Safety Program Plan or Priority One Program for their intended purposes of providing guidance for managing the safety of the Metro-North Railroad operations and employees.
- 2 The Metro-North Railroad Safety and Security Department was ineffective in identifying and resolving operational or process safety issues across its departments, and the organizational structure of Metro-North Railroad and its safety programs did not support effective safety risk management of all its departments and functions.
- 3 Metro-North Railroad did not effectively investigate accidents and incidents and address known deficiencies to continuously improve and revise processes to prevent recurrences.
- 4 Metro-North Railroad did not have an effective system for identifying, monitoring, analyzing, and mitigating safety risks.
- 5 Metro-North Railroad did not have an effective program that encouraged all employees to report safety issues and observations.
- 6 The Metro-North Railroad's system of speed compliance testing for speed compliance was inadequate at the time of the December 1, 2013, derailment in The Bronx.
- 7 Metro-North Railroad lacked an effective oversight and enforcement program to ensure that employees and managers understand and comply with established safety procedures.
- 8 Metro-North Railroad managers often lacked the ability to effectively conduct audits, operational testing processes, and safety risk management actions as described in the Metro-North Railroad System Safety Program Plan.
- 9 Metro-North Railroad medical protocols lacked appropriate guidance regarding sleep disorders and medications.
- 10 Metro-North Railroad and the Long Island Railroad did not have adequate protocols to screen employees, especially those performing safety-sensitive functions, for sleep disorders despite the implementation of a protocol at New York City Transit.

Metro North management is committed to workplace safety and participates regularly in safety events.



Management does not pressure staff to maintain service or operations, potentially at cost of safety.



# SMS Components

## 3. Risk Management



Chicago, IL  
March 24, 2014

“The NTSB concludes that the CTA’s System Safety Program did not include a hazard management program sufficient to identify hazards at existing facilities.”

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Collision between two UP trains  
Galva, KS  
September 25, 2014,

“Contributing to the accident was the UP’s failure to conduct a risk assessment of the new control point installation at CP 207.”

# SMS Components

## 4. Safety Culture

# Why safety culture?

- “The NTSB has on a number of occasions recognized the lack of an organizational culture of safety within a transportation agency as having contributed to an accident.”
  - NTSB report of WMATA Fort Totten accident, p. 98

# In summary ...

- **SMS** is the managing safety the way we manage other vital business functions.
- **Trust** is essential because it enables employees to report safety concerns without fear of retribution.
- The way to instill trust is to ensure you have a **just culture**.



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